



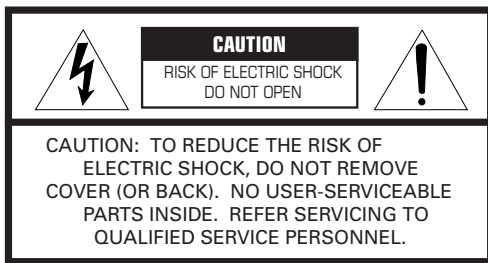
# YST-SW320

*Active Servo Processing Subwoofer System*

*Caisson de grave avec asservissement actif*



**OWNER'S MANUAL  
MODE D'EMPLOI**



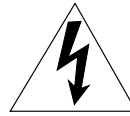
**IMPORTANT**  
Please record the serial number of this system in the space below.

Model:

Serial No.:

The serial number is located on the rear of the main unit.  
Retain this Owner's Manual in a safe place for future reference.

• Explanation of Graphical Symbols




The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING**  
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

# SAFETY INSTRUCTIONS

- 1 Read Instructions – All the safety and operating instructions should be read before the unit is operated.
- 2 Retain Instructions – The safety and operating instructions should be retained for future reference.
- 3 Heed Warnings – All warnings on the unit and in the operating instructions should be adhered to.
- 4 Follow Instructions – All operating and other instructions should be followed.
- 5 Water and Moisture – The unit should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
- 6 Carts and Stands – The unit should be used only with a cart or stand that is recommended by the manufacturer.
- 6A A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn. 
- 7 Wall or Ceiling Mounting – The unit should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8 Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface, that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- 9 Heat – The unit should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.
- 10 Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.
- 11 Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- 12 Cleaning – The unit should be cleaned only as recommended by the manufacturer.
- 13 Nonuse Periods – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.
- 14 Object and Liquid Entry – Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the unit.
- 15 Damage Requiring Service – The unit should be serviced by qualified service personnel when:
  - A. The power-supply cord or the plug has been damaged; or
  - B. Objects have fallen, or liquid has been spilled into the unit; or
  - C. The unit has been exposed to rain; or
  - D. The unit does not appear to operate normally or exhibits a marked change in performance; or
  - E. The unit has been dropped, or the cabinet damaged.
- 16 Servicing – The user should not attempt to service the unit beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.
- 17 Power Lines – An outdoor antenna should be located away from power lines.
- 18 Grounding or Polarization – Precautions should be taken so that the grounding or polarization is not defeated.

## FCC INFORMATION (for US customers only)

- 1. IMPORTANT NOTICE : DO NOT MODIFY THIS UNIT!**  
This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
- 2. IMPORTANT :** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product **MUST** be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
- 3. NOTE :** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices.

This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices.

Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Electronics Corp., U.S.A. 6660 Orangethorpe Ave, Buena Park, CA 90620.

The above statements apply **ONLY** to those products distributed by Yamaha Corporation of America or its subsidiaries.

## We Want You Listening For A Lifetime

YAMAHA and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing.

Since hearing damage from loud sounds is often undetectable until it is too late, YAMAHA and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.



### For Canadian Customers

To prevent electric shock, match wide blade of plug to wide slot and fully insert.

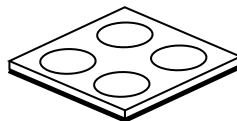
This Class B digital apparatus complies with Canadian ICES-003.

## UNPACKING DEBALLAGE

After unpacking, check that the following item is contained.

Après le déballage, vérifier que la pièce suivante est incluse.

Nonskid pads  
Patins anti-dérapages



## CAUTION: Read this before operating your unit.

- To assure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
- Install this unit in a cool, dry, clean place – away from windows, heat sources, sources of excessive vibration, dust, moisture and cold. Avoid sources of humming (transformers, motors). To prevent fire or electrical shock, do not expose this unit to rain or water.
- Never open the cabinet. If something drops into the set, contact your dealer.
- To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.
- Do not use force on switches, controls or connection wires. When moving the unit, first disconnect the power plug and the wires connected to other equipments. Never pull the wires themselves.
- When not planning to use this unit for a long period (i.e., vacation, etc.), disconnect the AC power plug from the wall outlet.
- To prevent lightning damage, disconnect the AC power plug when there is an electric storm.
- Since this unit has a built-in power amplifier, heat will radiate from the rear panel. Place the unit apart from the walls, allowing enough spaces above, behind and on both sides of the unit to prevent fire or damage. Furthermore, do not position with the rear panel facing down on the floor or other surfaces.

### <For U.K., Europe and China models only>

Be sure to allow spaces of at least 20 cm above, behind and on both sides of the unit.

- Do not cover the rear panel of this unit with a newspaper, a tablecloth, a curtain, etc. in order not to obstruct heat radiation. If the temperature inside the unit rises, it may cause fire, damage to the unit and/or personal injury.
- Do not place the following objects on this unit:  
Glass, china, etc.  
If glass etc. falls by vibrations and breaks, it may cause personal injury.  
A burning candle etc.  
If the candle falls by vibrations, it may cause fire and personal injury.  
A vessel with water in it  
If the vessel falls by vibrations and water spills, it may cause damage to the unit, and/or you may get an electric shock.
- Super-bass frequencies reproduced by this unit may cause a turntable to generate a howling sound. In such a case, move this unit away from the turntable.
- If you hear distorted noise (i.e., unnatural, intermittent “rapping” or “hammering” sounds) coming from this unit, reduce the volume level. Extremely loud playing of a movie soundtrack’s low frequency, bass-heavy sounds or similarly loud popular music passages can damage this speaker system.
- Vibration generated by super-bass frequencies may distort images on a TV. In such a case, move this unit away from the TV set.

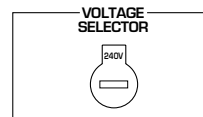
- Do not attempt to clean this unit with chemical solvents as this might damage the finish. Use a clean, dry cloth.
- Be sure to read the “TROUBLESHOOTING” section regarding common operating errors before concluding that the unit is faulty.

- **Secure placement or installation is the owner’s responsibility.**  
**YAMAHA shall not be liable for any accident caused by improper placement or installation of speakers.**

### ● VOLTAGE SELECTOR (China and General models only)

The voltage selector switch on the rear panel of this unit must be set for your local main voltage BEFORE plugging this unit into the AC main supply.

Voltages are 110/120/220/240 V AC, 50/60 Hz.



### For U.K. customers

If the socket outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate 3 pin plug fitted. For details, refer to the instructions described below.

**Note:** The plug severed from the mains lead must be destroyed, as a plug with bared flexible cord is hazardous if engaged in a live socket outlet.

### SPECIAL INSTRUCTIONS FOR U.K. MODEL

#### IMPORTANT:

THE WIRES IN MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:

Blue: NEUTRAL

Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED. Making sure that neither core is connected to the earth terminal of the three pin plug.

#### Standby mode

When this unit is turned off by pressing the STANDBY/ON button on the front panel, this unit consumes a small amount of power. This state is called the standby mode. This unit’s power supply is completely cut off from the AC line only when the POWER switch on the rear panel is set in the OFF position or the AC power cord is disconnected.

This unit features a magnetically shielded design, but there is still a chance that placing it too close to a TV set might impair picture color. Should this happen, move this unit away from the TV set.

# CONTENTS

---

<b>UNPACKING</b> .....	Inside of Front Cover	<b>CONTROLS AND THEIR FUNCTIONS</b> ...	8
<b>CAUTION</b> .....	1	<b>AUTOMATIC POWER-SWITCHING FUNCTION</b> .....	9
<b>FEATURES</b> .....	2	<b>ADJUSTING THE SUBWOOFER BEFORE USE</b> .....	10
<b>PLACEMENT</b> .....	3	Frequency characteristics .....	11
<b>CONNECTIONS</b> .....	4	<b>ADVANCED YAMAHA ACTIVE SERVO TECHNOLOGY</b> .....	12
Connecting to line output (pin jack) terminals of the amplifier .....	4	<b>TROUBLESHOOTING</b> .....	13
Connecting to speaker output terminals of the amplifier .....	6	<b>SPECIFICATIONS</b> .....	14

## FEATURES

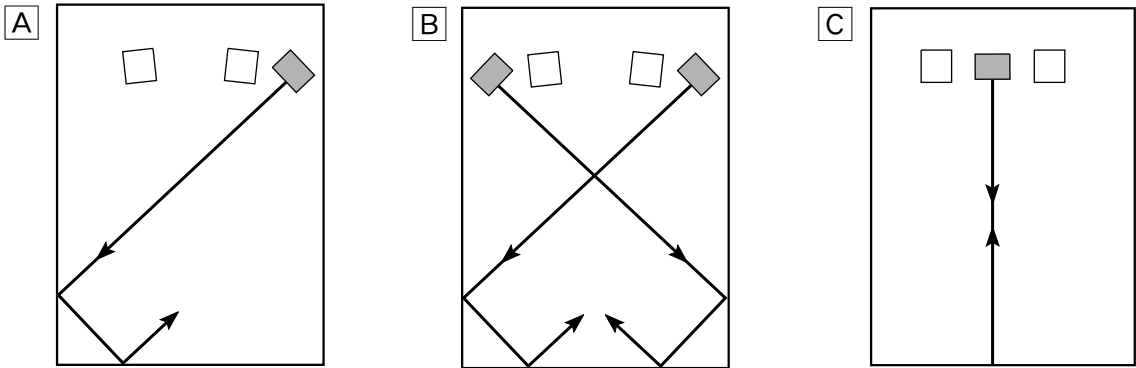
---



- This subwoofer system employs Advanced YAMAHA Active Servo Technology which YAMAHA has developed for reproducing higher quality super-bass sound. (Refer to page 12 for details on Advanced YAMAHA Active Servo Technology.) This super-bass sound adds a more realistic, theater-in-the-home effect to your stereo system.
- This subwoofer can be easily added to your existing audio system by connecting to either the speaker terminals or the line output (pin jack) terminals of the amplifier.
- For the effective use of this unit, this unit's super-bass sound should be matched to the sounds of your main speakers. You can create the best sound quality for various listening conditions by using the HIGH CUT control and the PHASE switch.
- The Automatic power-switching function saves you the trouble of pressing the STANDBY/ON button to turn the power on and off.
- You can select bass effect suitable for the source by using the BASS switch.

**QD·Bass**  
TECHNOLOGY

### QD-Bass Technology

QD-Bass (Quatre Dispersion Bass) technology uses square, pyramid-shaped reflective plates to radiate the sound in four horizontal directions.



(  : subwoofer,  : main speaker)

One subwoofer will have a good effect on your audio system, however, the use of two subwoofers is recommended to obtain more effect.

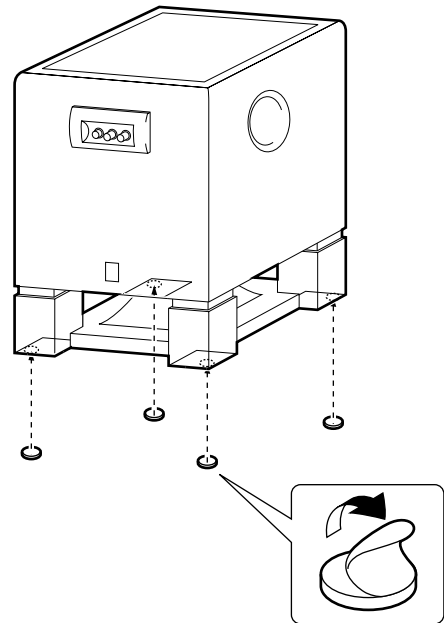
If using one subwoofer, it is recommended to place it on the outside of either the right or the left main speaker. (See fig. [A](#).) If using two subwoofers, it is recommended to place them on the outside of each main speaker. (See fig. [B](#).) The placement shown in fig. [C](#) is also possible, however, if the subwoofer system is placed directly facing the wall, the bass effect may die because the sound from it and the sound reflected by the wall may cancel out each other. To prevent this from happening, face the subwoofer system at an angle as in fig. [A](#) or [B](#).

### Note

There may be a case that you cannot obtain enough super-bass sounds from the subwoofer when listening in the center of the room. This is because “standing waves” have been developed between two parallel walls and they cancel the bass sounds. In such a case, face the subwoofer obliquely to the wall. It also may be necessary to break up the parallel surfaces by placing bookshelves etc. along the walls.

### Use the nonskid pads

Put the provided nonskid pads at the four corners on the bottom of the subwoofer to prevent the subwoofer from moving by vibrations etc.



# CONNECTIONS

**Caution: Plug in the subwoofer and other audio/video components after all connections are completed.**

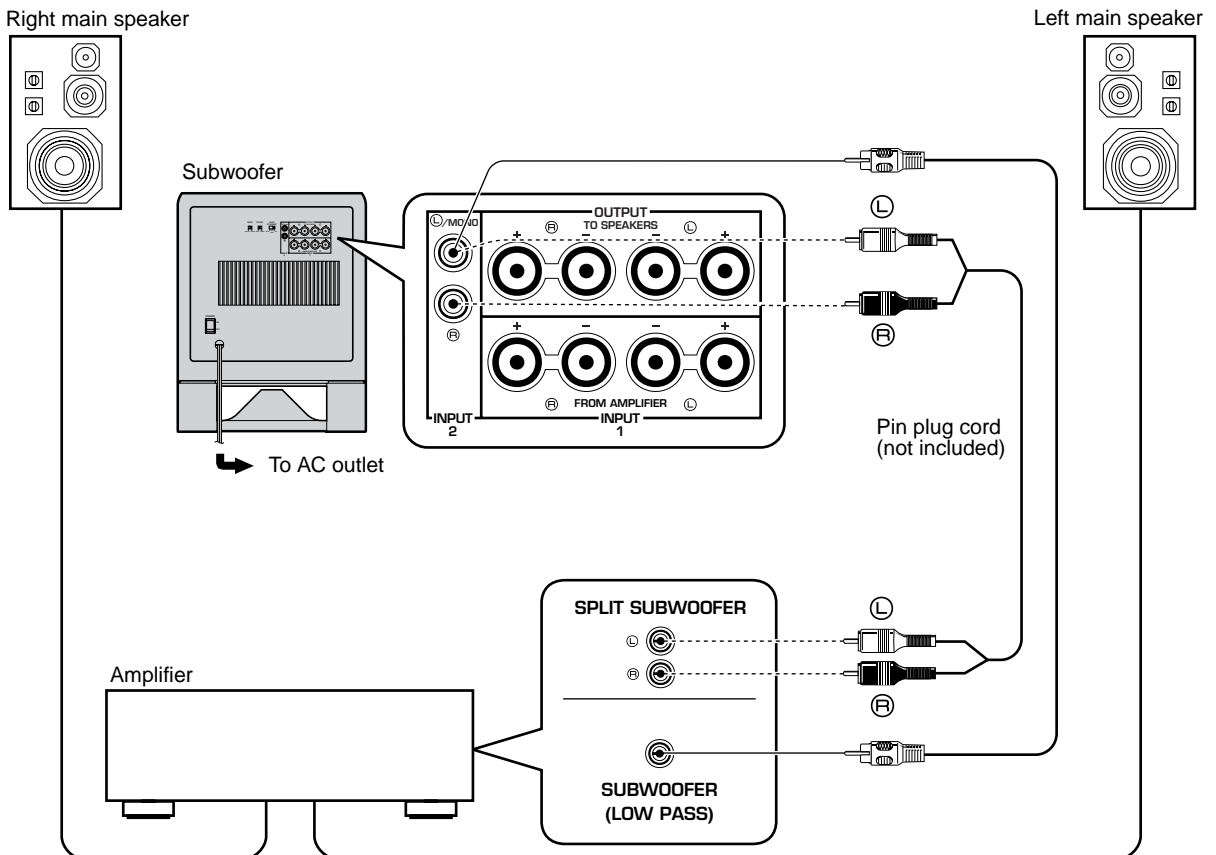
- All connections must be correct, that is to say **L** (left) to **L**, **R** (right) to **R**, “+” to “+” and “-” to “-”. Also refer to the owner's manual for each of your components.
- **<China and General models only>**  
Set the **VOLTAGE SELECTOR** switch to the proper voltage of your area **BEFORE** plugging in the subwoofer.
- The subwoofer can be connected to either the line output (pin jack) terminals or the speaker output terminals of the amplifier. Choose one of the ways shown in this section that is more suitable for your audio system. Also, refer to the owner's manual of your component to be connected to the subwoofer.  
Basically, connect the subwoofer to the line output (pin jack) terminal(s) of the amplifier. (Refer to pages 4 and 5 for details.)  
If your amplifier does not have any line output terminal, connect the subwoofer to the speaker output terminals of the amplifier. (Refer to pages 6 and 7 for details.)

## Connecting to line output (pin jack) terminals of the amplifier

Connect the main speakers to the speaker output terminals of the amplifier.

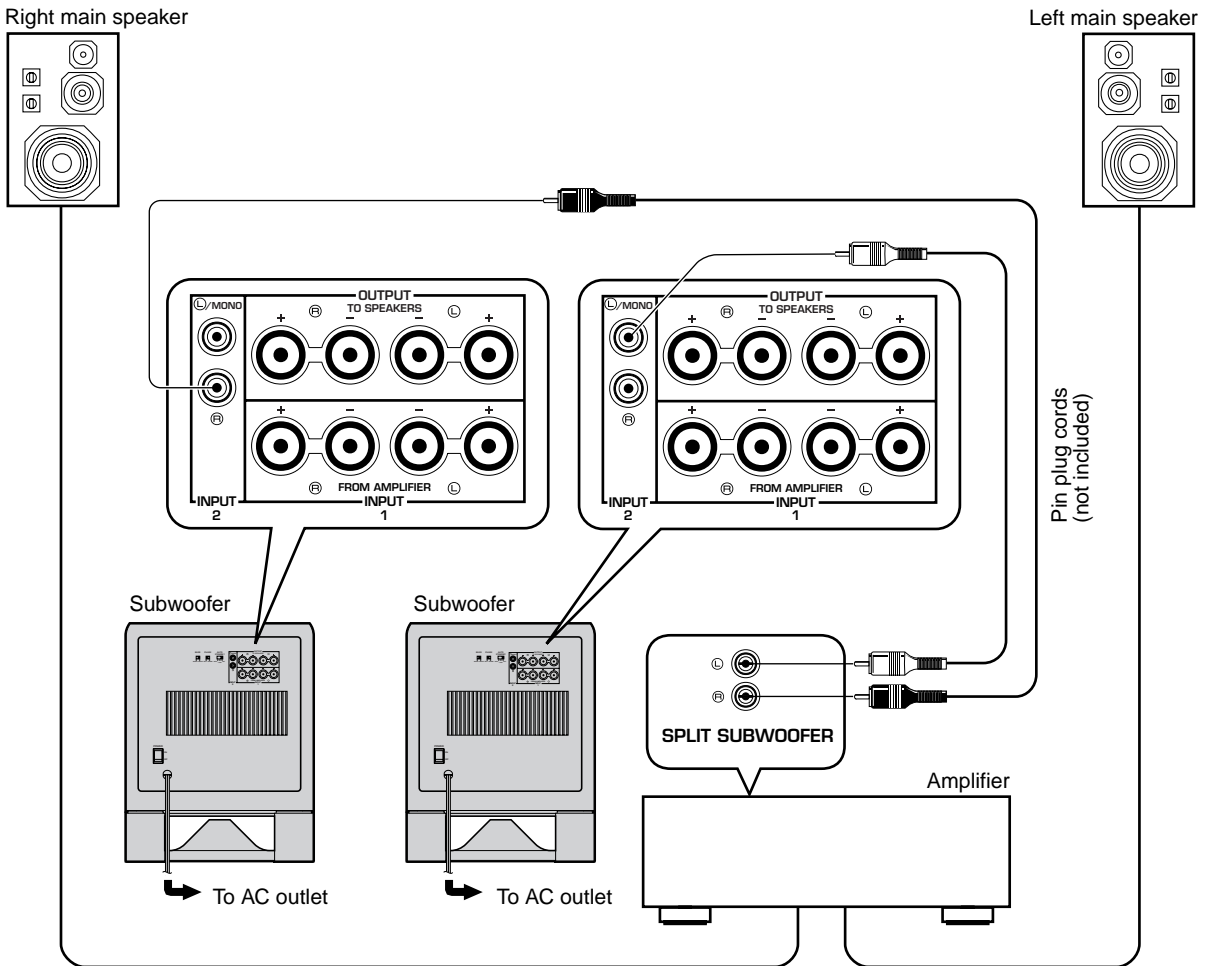
- To connect with a YAMAHA DSP amplifier (or AV receiver), connect the SUBWOOFER (or LOW PASS etc.) terminal on the rear of the DSP amplifier (or AV receiver) to the **L/MONO INPUT2** terminal of the subwoofer.
- When connecting the subwoofer to the **SPLIT SUBWOOFER** terminals on the rear of the DSP amplifier, be sure to connect the **L/MONO INPUT2** terminal to the “L” side and the **R INPUT2** terminal to the “R” side of the **SPLIT SUBWOOFER** terminals.

### ■ Using one subwoofer





## ■ Using two subwoofers



### Notes

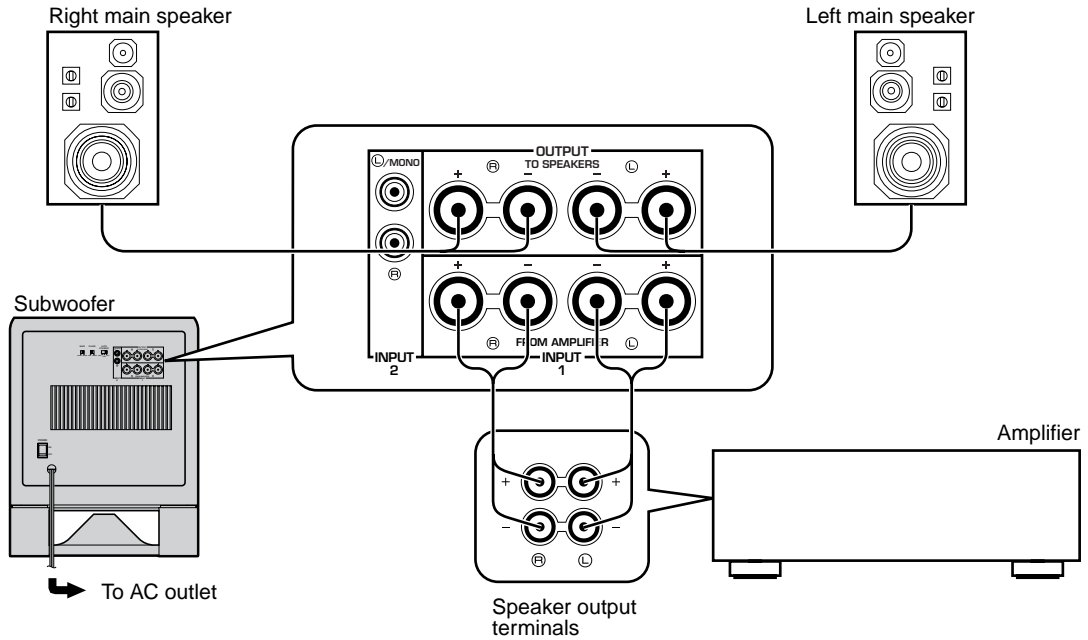
- Some amplifiers have line output terminals labeled PRE OUT. When you connect the subwoofer to the PRE OUT terminals of the amplifier, make sure that the amplifier has at least two sets of PRE OUT terminals. If the amplifier has only one set of PRE OUT terminals, do not connect the subwoofer to the PRE OUT terminals. Instead, connect the subwoofer to the speaker output terminals of the amplifier. (Refer to pages 6 and 7.)
- When connecting to a monaural line output terminal of the amplifier, connect the  $\text{L/MONO}$  INPUT2 terminal.
- When connecting to line output terminals of the amplifier, other speakers should not be connected to the OUTPUT terminals on the rear panel of the subwoofer. If connected, they will not produce sound.

## Connecting to speaker output terminals of the amplifier

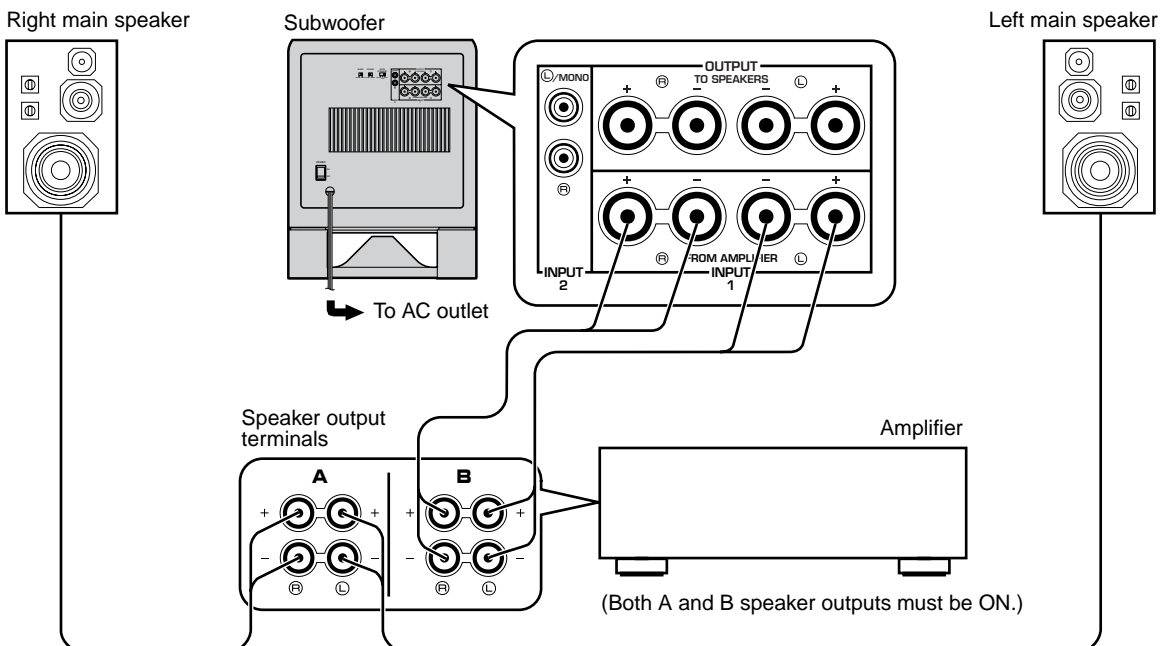
### ■ Using one subwoofer

#### If your amplifier has only one set of main speaker output terminals

Connect the speaker output terminals of the amplifier to the INPUT1 terminals of the subwoofer, and connect the OUTPUT terminals of the subwoofer to the main speakers.

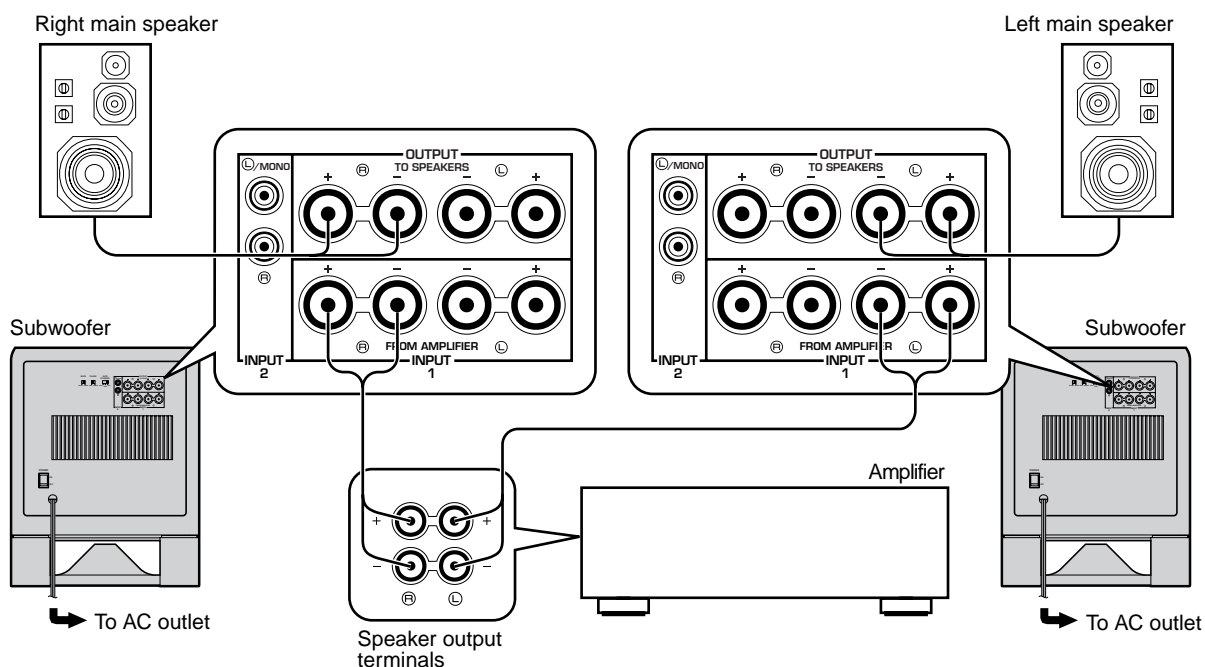


#### If your amplifier has two sets of speaker output terminals



## ■ Using two subwoofers

Connect the speaker output terminals of the amplifier to the INPUT1 terminals of the subwoofer, and connect the OUTPUT terminals of the subwoofer to the main speakers.

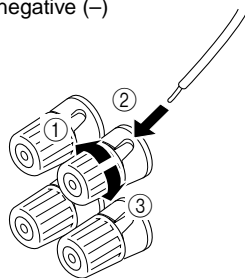


## Connecting to the INPUT1/OUTPUT terminals of the subwoofer

For connections, keep the speaker cords as short as possible. Do not bundle or roll up the excess part of the cords. If the connections are faulty, no sound will be heard from the subwoofer or the speakers, or both of them. Make sure that the + and – polarity markings of the speaker cords are observed and set correctly. If these cords are reversed, the sound will be unnatural and lack bass.

### How to Connect:

Red: positive (+)  
Black: negative (–)



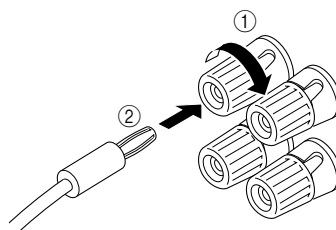
- ① Loosen the knob.
- ② Insert the bare wire.  
[Remove approx. 10 mm (3/8") insulation from the speaker wires.]
- ③ Tighten the knob and secure the wire.

### Caution

**Do not let the bare speaker wires touch each other as this could damage the subwoofer or the amplifier, or both of them.**

**<U.S.A., Canada, Australia, China and General models only>**

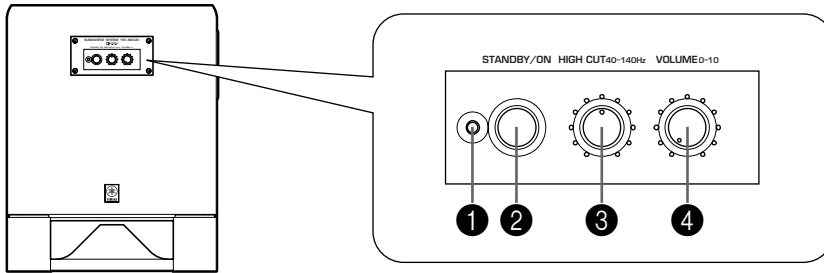
Banana Plug connections are also possible.



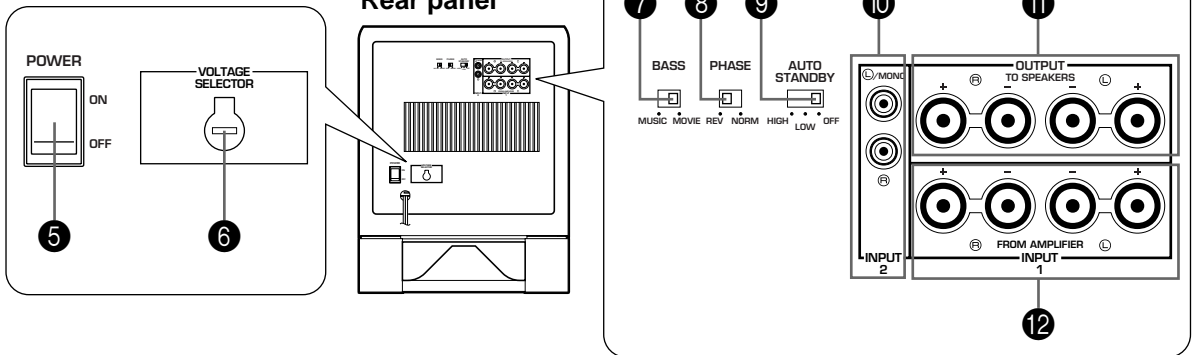
- ① Tighten the terminal knob.
- ② Simply insert the Banana Plug connector into the terminal.

# CONTROLS AND THEIR FUNCTIONS

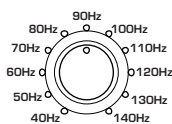
## Front panel



## Rear panel



- 1** **Power indicator**  
Lights up while the subwoofer is turned on.
  - 2** **STANDBY/ON** button  
Press this button to turn on the power. Press again to set the subwoofer in the standby mode.  
\* This button can be used only when the **POWER** (5) switch is set in the ON position.
- Standby mode**  
The subwoofer is still using a small amount of power in this mode.
- 3** **HIGH CUT** control  
Adjusts the high frequency cut off point. Frequencies higher than the frequency selected by this control are all cut off (and no output).  
\* One graduation of this control represents 10 Hz.



- 4** **VOLUME** control  
Adjusts the volume level. Turn the control clockwise to increase the volume, and counterclockwise to decrease the volume.
- 5** **POWER** switch  
Normally, set this switch to the ON position to use the subwoofer. In this state, you can turn on the subwoofer or turn the subwoofer into the standby mode by pressing the **STANDBY/ON** (2) button. Set this switch to the OFF position to completely cut off the subwoofer's power supply from the AC line.

- 6** **VOLTAGE SELECTOR** switch  
**(China and General models only)**  
If the preset setting of the switch is incorrect, set the switch to the proper voltage (110V, 120V, 220V or 240V) of your area.  
Consult your dealer if you are unsure of the correct setting.  
**WARNING**  
**Be sure to unplug the subwoofer before setting the VOLTAGE SELECTOR switch correctly.**

**7 BASS** switch

By setting this switch to the MOVIE position, the bass sound in video software is well reproduced. By setting it to the MUSIC position, the bass sound in audio software is well reproduced.

**8 PHASE** switch

Normally this switch is to be set to the REV (reverse) position. However, according to your speaker systems or the listening condition, there may be a case when better sound quality is obtained by setting this switch to the NORM (normal) position. Select the better position by monitoring the sound.

**9 AUTO STANDBY (HIGH/LOW/OFF)** switch

This switch is originally set to the OFF position. By setting this switch to the HIGH or LOW position, the subwoofer's automatic power-switching function operates as described below. If you do not need this function, leave this switch in the OFF position.

\* Make sure to change the setting of this switch only when the **STANDBY/ON** (2) button is in the OFF position.

**10 INPUT2** terminals

Used to input line level signals from the amplifier. (Refer to "**CONNECTIONS**" for details.)

**11 OUTPUT (TO SPEAKERS)** terminals

Can be used for connecting to the main speakers. Signals are sent directly from the amplifier to the main speakers by way of these terminals. (Refer to "**CONNECTIONS**" for details.)

**12 INPUT1 (FROM AMPLIFIER)** terminals

Used to connect the subwoofer with the speaker terminals of the amplifier. (Refer to "**CONNECTIONS**" for details.)

## AUTOMATIC POWER-SWITCHING FUNCTION

When you play a source, the power of the subwoofer turns on automatically by sensing audio signals input to the subwoofer. On the other hand, the subwoofer automatically switches to the standby mode if the source being played is stopped or the input signal is cut off for a few minutes. This function operates by sensing a certain level of low frequency input signal. Its sensitivity is high in the HIGH position and low in the LOW position of the **AUTO STANDBY** switch. Set this switch to the position you prefer. In the HIGH position, the power will turn on even with a low level of input signal. But please be aware that the subwoofer may not switch to the standby mode when there is an extremely low input signal.

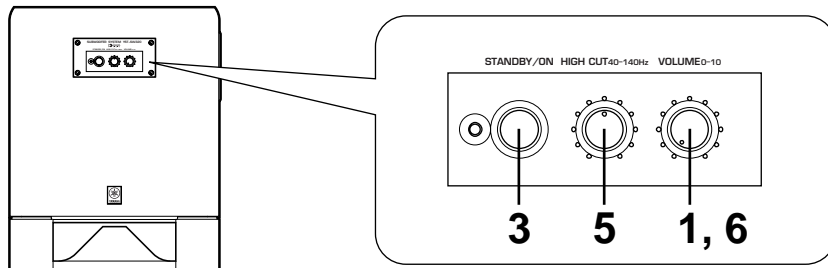
- \* The power might turn on unexpectedly by sensing noise from other appliances. If that occurs, set the **AUTO STANDBY** switch to the OFF or LOW position.
- \* The level of low frequency input signal differs with each source and among different parts within the same source. This means that the function may not operate properly on some sources.

**This function is available only when the power of the subwoofer is on (by setting the STANDBY/ON button to "ON").**

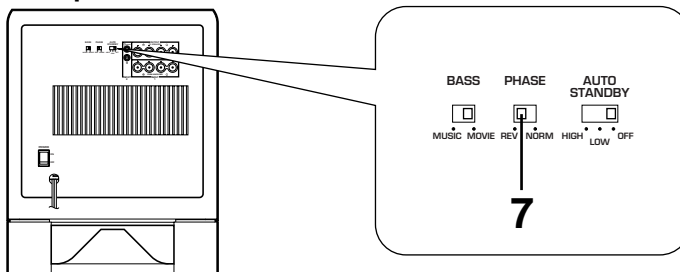
# ADJUSTING THE SUBWOOFER BEFORE USE

Before using the subwoofer, adjust the subwoofer to obtain the optimum volume and tone balance between the subwoofer and the main speakers by following the procedures described below.

## Front panel



## Rear panel



- 1 Set the **VOLUME** control to minimum (0).
- 2 Turn on the power of all the other components.
- 3 Press the **STANDBY/ON** button to turn on the subwoofer.
- 4 Play a source and adjust the amplifier's volume control to the desired listening level.
- 5 Adjust the **HIGH CUT** control to the position where the desired response can be obtained.

Normally, set the control to the main speaker's rated minimum reproducible frequency\*.

\* The main speaker's rated minimum reproducible frequency can be looked up in the speakers' catalog or owner's manual.

- 6 Increase the volume gradually to adjust the volume balance between the subwoofer and the main speakers.

Normally, set the control to the level where you can obtain a little more bass effect than when this unit is not used. If the desired response cannot be obtained, adjust the **HIGH CUT** control and the **VOLUME** control again.

- 7 Set the **PHASE** switch to the position which gives you the better bass sound.  
Normally, set the switch to the REV (reverse) position. If the desired response cannot be obtained, set the switch to the NORM (normal) position.

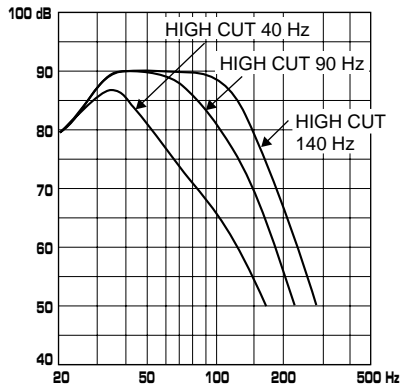
- Once the volume balance between the subwoofer and the main speakers is adjusted, you can adjust the volume of your whole sound system by using the amplifier's volume control.

However, if you change the main speakers to others, you must make this adjustment again.

- For adjusting the **VOLUME** control, the **HIGH CUT** control and the **PHASE** switch, refer to "Frequency characteristics" on the next page.

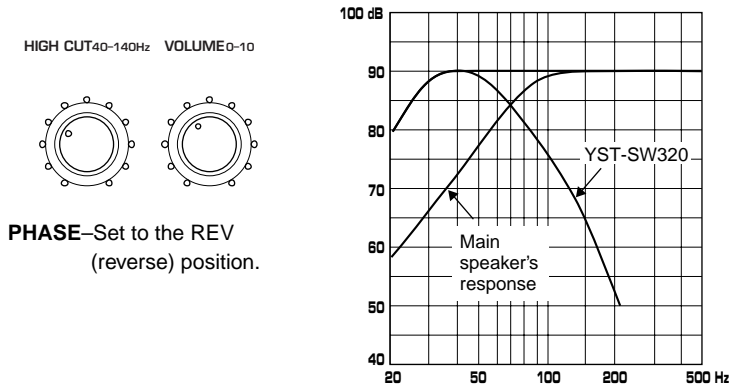
# Frequency characteristics

This subwoofer's frequency characteristics

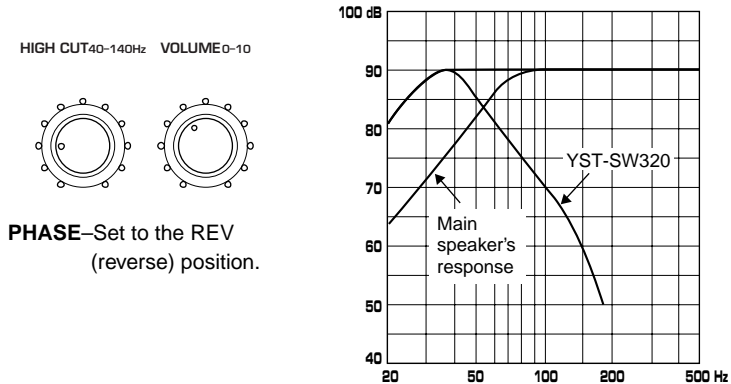


The figures below show the optimum adjustment of each control and the frequency characteristics when this subwoofer is combined with a typical main speaker system.

## EX.1 When combined with a 4" or 5" (10 cm or 13 cm) acoustic suspension, 2 way system main speakers



## EX.2 When combined with an 8" or 10" (20 cm or 25 cm) acoustic suspension, 2 way system main speakers



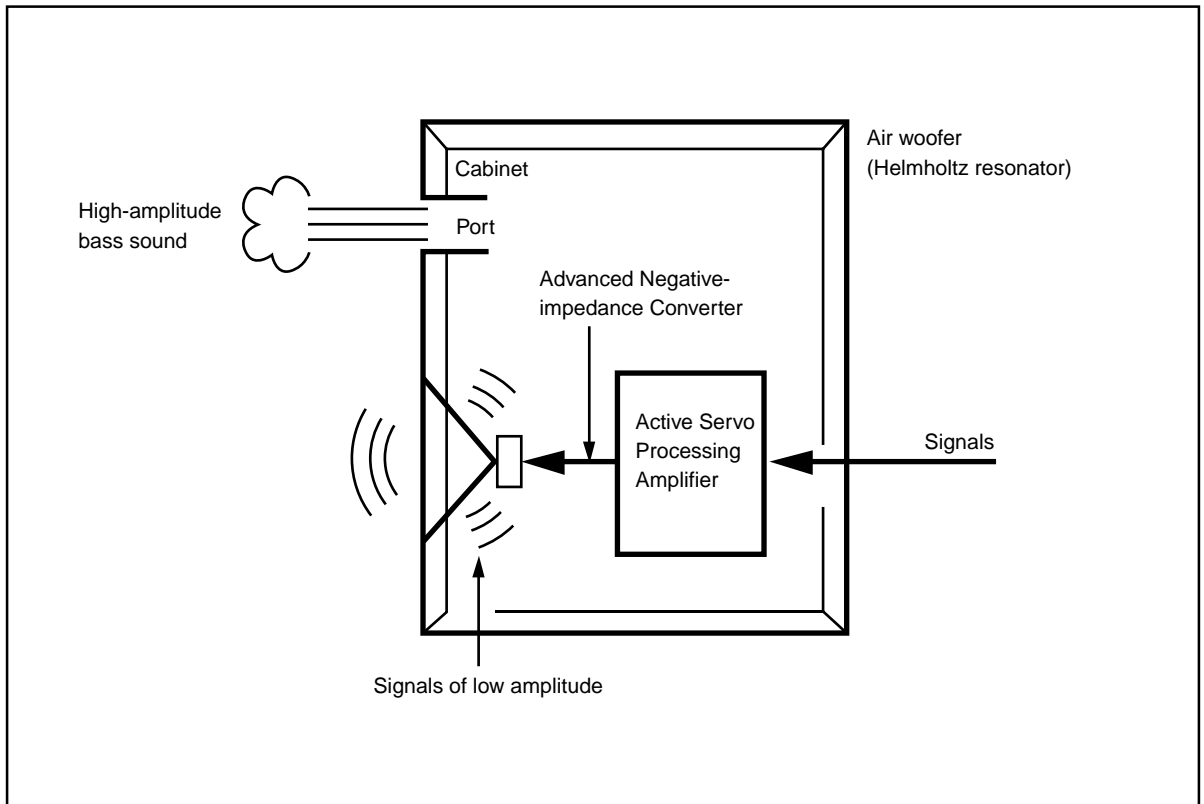
# ADVANCED YAMAHA ACTIVE SERVO TECHNOLOGY

The theory of Yamaha Active Servo Technology has been based upon two major factors, the Helmholtz resonator and negative-impedance drive. Active Servo Processing speakers reproduce the bass frequencies through an “air woofer”, which is a port or opening in the speaker’s cabinet. This opening is used instead of, and performs the functions of, a woofer in a conventionally designed speaker system. Thus, signals of low amplitude within the cabinet can, according to the Helmholtz resonance theory, be outputted from this opening as waves of great amplitude if the size of the opening and the volume of the cabinet are in the correct proportion to satisfy a certain ratio. In order to accomplish this, moreover, the amplitudes within the cabinet must be both precise and of sufficient power because these amplitudes must overcome the “load” presented by the air that exists within the cabinet.

Thus it is this problem that is resolved through the employment of a new design in which the amplifier supplies special signals. If the electrical resistance of the voice coil could be reduced to zero, the movement of the speaker unit would become linear with respect to signal voltage. To accomplish this, a special negative-impedance output-drive amplifier for subtracting output impedance of the amplifier is used.

By employing negative-impedance drive circuits, the amplifier is able to generate precise, low-amplitude, low-frequency waves with superior damping characteristics. These waves are then radiated from the cabinet opening as high-amplitude signals. The system can, therefore, by employing the negative-impedance output drive amplifier and a speaker cabinet with the Helmholtz resonator, reproduce an extremely wide range of frequencies with amazing sound quality and less distortion. The features described above, then, are combined to be the fundamental structure of the conventional Yamaha Active Servo Technology.

Our new Active Servo Technology — Advanced Yamaha Active Servo Technology — adopted Advanced Negative Impedance Converter (ANIC) circuits, which allows the conventional negative impedance converter to dynamically vary in order to select an optimum value for speaker impedance variation. With this new ANIC circuits, Advanced Yamaha Active Servo Technology can provide more stable performance and improved sound pressure compared with the conventional Yamaha Active Servo Technology, resulting in more natural and dynamic bass reproduction.





# TROUBLESHOOTING

Refer to the chart below when this unit does not function properly. If the problem you are experiencing is not listed below or if the instructions given below do not help, disconnect the power cord and contact your authorized YAMAHA dealer or service center.

Problem	Cause	What to Do
<b>Power is not supplied even though the STANDBY/ON button is set to the ON position.</b>	The power cord is not plugged in, or the POWER switch is set to the OFF position.	Plug the power cord into an AC outlet and/or set the POWER switch to the ON position.
<b>No sound.</b>	The VOLUME control is set to 0.	Turn the VOLUME control to the right.
	Speaker cords are not connected securely.	Connect them securely.
<b>Sound level is too low.</b>	Speaker cords are not connected correctly.	Connect them correctly, that is L (left) to L, R (right) to R, "+" to "+" and "-" to "-".
	Setting of the PHASE switch is not proper.	Set the switch to the other position.
	A source sound with few bass frequencies is played.	Play a source sound with bass frequencies. Set the HIGH CUT control to a higher position.
	It is influenced by standing waves.	Reposition the subwoofer or break up the parallel surface by placing bookshelves etc. along the walls.
<b>The subwoofer does not turn on automatically.</b>	The POWER switch is set to the OFF position.	Set the POWER switch to the ON position.
	The STANDBY/ON button is set to OFF.	Set the STANDBY/ON button to ON.
	The AUTO STANDBY switch is set to the OFF position.	Set the AUTO STANDBY switch to the "HIGH" or "LOW" position.
	The level of input signal is too low.	Set the AUTO STANDBY switch to the "HIGH" position.
<b>The subwoofer turns into the standby mode unexpectedly.</b>	The level of input signal is too low.	Set the AUTO STANDBY switch to the "HIGH" position.
<b>The subwoofer turns on unexpectedly.</b>	There is an influence of noise generated from external appliances etc.	Move the subwoofer farther away from such appliances and/or reposition the connected speaker cables. Otherwise, set the AUTO STANDBY switch to the "OFF" position.

# SPECIFICATIONS

---

**Type** ..... Advanced Yamaha Active Servo Technology

**Power Consumption** ..... 60W

**Driver** ..... 25 cm (10") cone woofer (JA2560)  
Magnetically shielded type

**Dimensions (W x H x D)** ..... 340 mm x 432 mm x 370 mm  
(13-3/8" x 17" x 14-9/16")

**Amplifier Output** ..... 250W/5Ω

**Weight** ..... 17 kg (37 lbs. 6 oz.)

**Frequency Response** ..... 20 Hz–160 Hz (–10 dB)

**Accessories** ..... Nonskid pad x 4

## Power Supply

**USA and Canada models** ..... AC 120V, 60 Hz

**U.K. and Europe models** ..... AC 230V, 50 Hz

**Australia model** ..... AC 240V, 50 Hz

## China and General models

..... AC 110/120/220/240V, 50/60 Hz

\* Please note that all specifications are subject to change without notice.



---

YAMAHA ELECTRONICS CORPORATION, USA 6660 ORANGETHORPE AVE., BUENA PARK, CALIF. 90620, U.S.A.  
YAMAHA CANADA MUSIC LTD. 135 MILNER AVE., SCARBOROUGH, ONTARIO M1S 3R1, CANADA  
YAMAHA ELECTRONIK EUROPA G.m.b.H. SIEMENSSTR, 22-34, 25462 RELLINGEN, BEI HAMBURG, F.R. OF GERMANY  
YAMAHA ELECTRONIQUE FRANCE S.A. RUE AMBROISE CROIZAT BP70 CROISSY-BEAUBOURG 77312 MARNE-LA-VALLEE CEDEX02, FRANCE  
YAMAHA ELECTRONICS (UK) LTD. YAMAHA HOUSE, 200 RICKMANSWORTH ROAD WATFORD, HERTS WD1 7JS, ENGLAND  
YAMAHA SCANDINAVIA A.B. J A WETTERGRENS GATA 1, BOX 30053, 400 43 VASTRA FRÖLUNDA, SWEDEN  
YAMAHA MUSIC AUSTRALIA PTY, LTD. 17-33 MARKET ST., SOUTH MELBOURNE, 3205 VIC., AUSTRALIA

YAMAHA CORPORATION

Printed in China



V586430-2